23 CFR 630, Subpart J
FHWA Docket No. FHWA-2001-11130
RIN 2125-AE29
Work Zone Safety

Comments to FHWA A-2001-11130
For easy reference, our comments on the FHWA Advance Notice for Proposed Rule Making (ANPRM) follow the question and answer format set forth in the Federal Register Notice of Wednesday February 6, 2002.

General Questions

Question #1: Should there be a National policy to promote improved mobility and safety in highway construction and maintenance? If so, should the National policy be incorporated into the regulation or issued separately as guidance that outlines guidelines and best practices for implementation?

Comment #1: To improve mobility, uniformity and safety in Work Zones there should be a National policy and it should be incorporated into a regulation. "Guidelines" or "Best Practices" do not have the force and effect of a regulation. If the work zone fatality and injury statistics are any indication, it would certainly seem that there is an immediate need for a new national policy.

Question #2: Are the current provisions of 23 CFR 630, subpart J adequate to meet the mobility and safety challenges of road construction and maintenance projects encountered at all stages of project evolution? If they are not adequate, what are the provisions and/or sections that need to be enhanced and/or modified to ensure mobility and safety in and around work zones?

Comment #2: We believe that the provisions of the current regulations are not adequate to meet the safety and mobility needs for road construction and maintenance projects. Several sections are too broad and vague. These ambiguities make the regulations unenforceable and provide an uneven playing field for bidders. All the stakeholders would benefit by clearer, and more comprehensive standards to provide greater uniformity for items such as: a) Limiting lane closings to only off peak traffic periods (Enhanced technologies make permanent closing of traffic lanes during construction unnecessary and inefficient. It is now possible to cost effectively open and close lanes before and after peak traffic periods, providing significant benefits in flexibility, reduced congestion and safety), b) Providing positive barrier protection and separation at all times during construction (According to the 2000 Labor Department Census, construction was cited as one of the most hazardous occupations, with 1,154 deaths, Transportation was the second most deadly industry with 957 recorded deaths), c) Including provisions that require the work space to be protected and expanded during off peak traffic periods to accelerate construction and speed completion, d) Providing entry and exit procedures for supply vehicles between traffic space and work space (Where space is limited and where there is no designated path for construction equipment, the probability for accidents increase), e) and including provisions for alternative project scheduling and staging construction to maximize work schedules and minimize disruptions to traffic. Specific requirements exist in other areas of the Federal-aid highway program, such as environment and

contracting procedures. With the lives of road users and workers at risk, it would seem prudent to develop specific procedures similar to the other areas of the Federal-aid Highway Program.

Question #3: Should work zone regulations be stratified to reflect varying levels and durations of risk to road users and workers, and disruptions to traffic? What would be the most appropriate stratification factors (e.g. duration, length, lanes affected, Average Daily Traffic [ADT], road classification, expected capacity reduction, potential impacts on local network and businesses)?

Comment #3:
Yes, we would recommend that Work Zone regulations should be stratified. Expected capacity reductions, lane restrictions and Average Daily Traffic (ADT) are factors that play a significant role and have a major impact on SAFETY, congestion, mobility, air quality (cars idling in queues) and road users overall dissatisfaction with road construction. According to the FHWA Administrator Mary E. Peters in testimony before the House Transportation and Infrastructure's Subcommittee on Highway and Transit," increased traffic congestion is a growing threat to the nation's economy and to the quality of life of all Americans."

Question #4: Currently, there are several definitions for work zones, as defined by the MUTCD, ANSI D16 (proposed), NCUTLO and NHTSA. These definitions, even though similar in basic structure and implication, differ in length and the degree of detail addressed. Should there be a common National definition for work zone to bring about uniformity? If so, what should the common National definition be?

Comment #4:
Better data collection, and more uniform reporting of accident and work zone statistics would improve the quality to the help identify work zone problems and take corrective action. The proposed ANSI D16 definition might be a good place to start. A national definition, combined with an effective outreach program designed to educate the law enforcement community, emergency medical providers, maintenance and other road users, would greatly assist in better data collection and facilitate better identification and implementation of corrective measures..

Transportation Planning and Programming

Question #5: How, if at all, are impacts to road users due to road construction and maintenance part of the management and operations considerations that are addressed in transportation plan development?

Comment #5
Far too often, the needs of the road users and construction workes are not addressed in the early design stages and development of the traffic control management/ or transportation plans. There needs to much greater emphasis on positively protecting and separating motorists from construction workers, factoring in average daily traffic counts, expected capacity reduction, anticipated congestion, the impact on local business and industry, and not reducing lanes or capacity during "peak traffic periods."

More consideration needs to be given to restricting capacity reductions and taking lanes only during "off peak traffic periods" in order to provide additional work- space to safely accelerate construction. Positively protecting workers with barriers throughout construction should be required in the TCP

wherever traffic volumes and or speeds dictate. These kinds of enhancements would assist in the development of better traffic control plans, to improve safety, improve public acceptance, facilitate and even playing field within the TCP and encourage the use of our transportation facilities more efficiently and effectively. It would also encourage the use of improved technologies to help expedite project completions, improve quality and mobility.

Question #6: To what extent should the metropolitan and statewide transportation planning processes address cross-cutting policy issues that may contribute to increases in project costs (for example, the use of more durable materials, life-cycle costing, complete closure of facilities, information sharing on utilities, etc.)? Is it appropriate to consider the impact of construction and maintenance projects to road users in planning for future roadway improvements at the metropolitan level? At the statewide level? At the corridor level?

Comment #6:
We feel that it is appropriate to consider the additional costs associated with more durable and conceivably more expensive work zone materials and improved work zone technologies that can have the positive effect of accelerating construction, improving safety, and enabling work under heavy traffic conditions commonly encountered in metropolitan and heavily congested corridors. This consideration will have the broadest benefit to the majority of the road users due to the fact that the most congested highways are in metropolitan areas.

Question #7: What data and methods are currently available to address the above considerations? What else would be needed to support such considerations in the metropolitan and statewide transportation planning processes? At the corridor level?

Comment #7:
There are several evaluation instruments available for making such determinations, including estimates for life-cycle costing, average daily traffic (ADT), traffic splits, traffic speeds, motorist delays, crossover accidents/fatalities and interviews with local business and industry. What is important, is that the use of this kind of information and improved strategies be included and required so that improved traffic control/ management plans can be developed to improve work zone performance..

Project Design for Construction and Maintenance

Question #8: How can the FHWA encourage agencies to incorporate the above considerations (life-cycle cost analysis, alternative project scheduling and design strategies, etc.) in the decision making process for evaluating alternative project designs? What are the most appropriate ways to include these considerations in project design?

Comment #8: FHWA must do more than “encourage” state agencies to incorporate these strategies. Regulations, financial incentives and disincentives need to be employed to ensure that NHS and metropolitan corridor projects consider off-peak nighttime work, improved methods and technologies, more durable materials, while limiting the closing of traffic lanes to off-peak periods. The project traffic control plans must specifically call for these features identified in the design. These features must also be present in the contract documents. Because of the importance of human life and congestion relief, FHWA must take a leadership role in helping this become a reality.

Question #9: Can user cost be a useful measure to assess alternative means to design and implement work zones? What weight should agencies assign to user costs as a decision making factor in the alternatives evaluation process? Should analytical tools, such as QuickZone, QUEWZ-98, etc., be used for the evaluation of various design alternatives and their estimated impact to the public? What other impact measures (delay, speed, travel time, crashes) should agencies estimate and use for alternatives evaluation?

Comment #9:
User costs are extremely important. In addition to user costs, we believe that worker and motorist safety, congestion, travel delays, alternative project scheduling and project duration should be included. All of these factors will help in developing better and more effective designs and traffic control plans. The goal should be a safe, efficient and a congestion free work zones. The use of analytical tools such as QuickZone and QUEWZ-98 could be helpful perhaps to larger jurisdictions, but certainly not required. Many local agencies are not resourced or equipped for this type of evaluation.

Question #10: Given the fact that utility delays have been cited as roadblocks to efficient project delivery, what should be done to address this issue?

Comment #10:
The FHWA, through the Division offices, should encourage early involvement of utilities in working with state highway agencies and the MPO's to establish guidelines to minimize traffic disruptions and improve mobility. To achieve this task, consideration should be given to developing enforcement policies that can improve mobility in utility work zones.

Managing for Mobility and Safety in and Around Work Zones

Question #11: The current regulation specifies the requirement for TCPs for work zones, but does not address the issues of sustained traffic management and operations, or traffic enforcement methods and partnerships. Should the scope of TCPs be expanded to include such considerations? What are the most relevant practices or technologies that should be considered in planning for traffic management, enforcement and operations? What are the most appropriate ways to facilitate the inclusion of such considerations in traffic control planning?

Comment #11:
We believe that the work zone TCP's should be expanded and that the scope of the traffic control plans should be broadened to contain specific requirements on how the project is to be advanced. These requirements should include, but not be limited to consideration of features such as:
Limiting the closing of traffic lanes only to off peak traffic periods, positively protecting and separating workers and motorists with barriers, accelerating construction by expanding the work space area during off peak traffic periods and including provisions to facilitate alternative project scheduling and providing entry and exit procedures for supply vehicles between traffic space and work space. The ability to change real time capacity of roadways thru lane reversals and use of the shoulders while providing positive separation should be included. Contract documents must be specific and incorporate these features into the traffic management and operations planning in order to provide a level playing field. If the desired results are to be

achieved and all bidders are to be on an equal footing, these provisions need to be included. One effective way to integrate this process is to provide a safety and/or mobility incentives (financial) to the states to be passed down to the contractors.

Question #12: Should TCPs address the security aspects of construction of critical transportation infrastructure? Should TCPs address the security aspects of work zone activities in the vicinity of critical transportation or other critical infrastructure?

Comment #12:
Traffic control plans should address security issues before, during and after construction in the event of an emergency. This would better serve the constructor and the road user, in the event of an unplanned emergency or incident. Maximizing the capacity of the roadway, and providing" flexible" traffic control in the work zone that could accommodate unexpected incidents, should be part of any national emergency or incident planning. Consideration should be given to establishing detailed and appropriately identified emergency routes, flexible barriers, openings, and detours.

Question #13: How should TCPs address ADA requirements?

Comment #13: Integrating additional requirements for disabled pedestrians should be considered. The ADA element must be identified in the design and presented in the traffic control plan to the extent necessary. Also the contract documents must assure proper attention.

Question #14: Should more flexibility be allowed on who develops TCPs – State DOTs, municipalities, contractors or law enforcement agencies – and how should the responsibility for developing TCPs be assigned? Should certification be required for TCP developers? How can the owners and contractors share the roles, risk and rewards in developing TCPs and implementing and operating work zones?

Comment #14: The primary TCP must be developed by the State as the design is progressing and be subject to the same review and approval process as the other design features. Changes should be permitted only when subjected to the normal change order or value engineering process. The State or Contracting agency should accept full responsibility

Question #15: To ensure roadway mobility and safety and work area safety, should mobility and safety audits be required for work zones?

Comment #15:
Yes. The frequency and scope of the safety audits should be linked to the hazardous nature of the project. On any complex project, or where there have been fatalities and serious injuries or abnormally high crash rates that dictate corrective action, safety audits should be required. The audit procedure should be developed through and in conjunction with the TCP and the TCP should be enforceable like other contractual requirements.

Public Outreach and Communications

Question #16: How can we better communicate the anticipated work zone impacts and the associated mitigation measures to the public? Who – the State, local

government, contractor, or other agency – should be responsible for informing the public?

Comment #16:
Public outreach and communicating work zone implications to the public is a vital component of any long-term large or highly hazardous project. Developing an effective out reach program should begin at the design phase of the project and be a coordinated effort that includes all the major stakeholders (ie. DOT, contractors, MPO, business and industry, emergency medial providers, delivery services, road users and communications specialists. The responsibility of informing the public and coordination this cross cutting team should rest with the transportation agency having jurisdiction over the project.

Question #17: Should projects with substantial disruption include a public communication plan in the project development process? If so, what should such a plan contain?

Comment #17:
Projects with substantial disruptions should include a public communication plan beginning with design and the project development process. Elements of this plan should include:

a) Duration of project
b) Reason why the construction work was needed
c) The benefits to the road user after completion of the project
d) Technologies being used to mitigate congestion/improve safety
e) How local businesses can help to reduce congestion/improve safety
f) Reminders of the inherit dangers to the workers and road users
g) Recommendations for alternate detour routing
h) A "crisis" communications component
i) Emergency/incident management contingencies/routing

Analyzing Work Zone Performance

Question #18: Should States and local transportation agencies report statistics on the characteristics of work zones (such as number of work zones, size, cost, duration, lanes affected, ADT, road classification, level of disruption and impacts on local network and businesses) to appropriate State or Federal agencies? If so, in what ways do you think this would be beneficial?

Comment #18:
States and local transportation agencies should provide statistics on the key features, accident and incident data, and important characteristics of work zones compiled and reported in a uniform format to enable interested parties to analyze compare data. Such information could be helpful in identifying best practices, technologies and methods to improve safety and reduce congestion. Comparative analysis of work zone statistics, to a national benchmark, could be the foundation for continually improving the mobility and safety in work zones.

Question #19: Should States and local transportation agencies report statistics on the mobility performance of work zones? Are typical mobility measures, such as delay, travel time, traffic volumes, speed and queue lengths appropriate to analyze work zone mobility performance? What are the top three measures that are most appropriate?

Comment #19:

States and local transportation agencies should report statistics on the mobility performance of work zones. Safety should also be included. The top three measurements of work zone performance should be safety, traffic volumes, and traffic delays.

Question #20: Are the currently used measures for safety (typically, crashes, fatalities and injuries) appropriate to analyze work zone performance? If not, what other measures should be considered? Are current mechanisms for collecting this information adequate? If not, how can we improve them?

Comment #20:
Fatalities and injuries are only the tip of the iceberg and in some cases the sampling is so small that it is difficult to analyze the data and arrive at any appropriate conclusions. In addition, this data is not being collected or reported uniformly. Also, there is little information available on the "other" crash categories (ie personal injury and property damage). We believe that a coordinated national effort is needed to collect and report safety performance data in a standardized method. Without uniform collection and reporting, the quality of these statistics will continue to suffer.